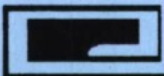


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PERSEREC



**DEVELOPMENT OF THE MARINE SECURITY
GUARD LIFE EXPERIENCES QUESTIONNAIRE**

ADA 216 140

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Marine Security Guard Battalion

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LIFE EXPERIENCES QUESTIONNAIRE

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Preface

Since June 1987, the Defense Personnel Security Research and Education Center (PERSEREC) has been working with the Marine Security Guard (MSG) Battalion in the development and evaluation of screening, psychological assessment, and continuing evaluation procedures. The present report describes one of the special MSG studies conducted by PERSEREC within the overall project. Previous reports document: (1) the prediction of school performance for students in MSG class 4-87 and (2) the factor structure of the Marine Corps Special Assignment Battery. Future reports will describe the development of MSG job performance rating scales, the validity of predictors of MSG school and job performance criteria and the development and utilization of MSG continuing evaluation measures.

This report describes the development of the Marine Security Guard Life Experiences Questionnaire (LEQ) and provides information to assist in the interpretation of results from its administration. The LEQ is already being used at the MSG School to assist in determining which students will be assigned to operational duty as Marine Security Guards.

Carson K. Eoyang
Director

Development of the Marine Security Guard Life Experiences Questionnaire

Summary

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Problem and Background

The Marine Security Guard (MSG) Battalion prepares students for assignments as Watchstanders and Detachment Commanders at over 140 embassies, consulates and legations throughout the world. Students with widely varying probabilities of passing are admitted into the MSG School. Approximately 30% of the entering students do not graduate from the school. Decisions concerning the suitability of students for MSG duty are made by a screening board during the third week of classes. The need for an accurate low-cost screening instrument that could assist the screening board in identifying the least-suitable student candidates upon or before entry into the program was recognized by the MSG Battalion.

Objective

The objective of this research was to develop an objectively scoreable background questionnaire for use at the MSG school which could (a) measure an individual's probability of success in the MSG program and (b) be scored and interpreted by MSG school personnel.

Approach

Student Individual Training Record (ITR) data and responses to an open-ended student questionnaire (administered by the MSG staff psychologist at the time of admission) from two 1987 MSG school classes were obtained. Items showing a significant relationship with school success were then converted into a multiple-choice format. Additional items were written to measure content areas that have demonstrated relationships with success in similar programs. Rational scale construction techniques aided by factor analysis were employed in identifying scoreable, content-homogeneous

scales. Nonhomogeneous scales were developed to measure response accuracy and validity, to mirror the content areas of the open-ended questionnaire, and to obtain clinical estimates of potential adjustment and success in the MSG program. Versions of the LEQ were administered to four MSG classes ($N=702$) during the instrument's development. Analyses were conducted of the relationships between LEQ scales and those of the U.S. Army Assessment of Background and Life Experiences (ABLE), the 16 Personality Factor Questionnaire (16PF) and the Clinical Analysis Questionnaire (CAQ). The LEQ was also validated against measures of MSG school and job performance.

Results

The LEQ measures a broad domain of background constructs as evidenced by the magnitude of the correlations of its scales with those of the ABLE, 16PF and CAQ. The alpha reliabilities of the scales are adequate and comparable to reliabilities for other instruments with similar item types and content. The correlations for all the LEQ scales against the MSG school pass/fail criterion are positive with many of the validity coefficients reaching statistical significance. The Sherman Critical, Total Adjustment and Parker-Fitz scales (nonhomogeneous) and the Conscientiousness, Traditional Values, Ethical Conservatism and High School Adjustment scales (homogeneous) exhibited the strongest relationships to pass/fail. A large number of the scales were also significantly related to three peer evaluation school criteria. Data were available to calculate the relationships of five of the LEQ scales to peer and supervisor ratings of Watchstander job performance. While the results are based on small ns , the Sherman Critical scale, the best predictor of school pass/fail, also exhibits significant correlations against job performance ratings. The Parker-Fitz, High School Academics and High School Adjustment scales also had significant relationships with rated job performance.

Conclusions

The results support the operational use of the LEQ for screening Marines for entry into the MSG program. Procedures have been developed to assist in the interpretation of results from the LEQ administration as documented in this report. Currently the LEQ is being administered to entering students at the MSG school and used by the Battalion psychologist and Screening Board to assist in determining which Marines should be assigned to MSG duty. Upon completion of the research program to evaluate a large number of test instruments for use in screening and selecting personnel for the MSG program, the manner of operational use of the LEQ will be reexamined. In particular, decisions will need to be made concerning the location of LEQ testing (either prior to arrival or at the MSG school), the manner in which it is employed in conjunction with other test instruments, and whether it should continue to be interpreted in a clinical fashion or whether a cut-off score should be established.

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Introduction

The Marine Security Guard (MSG) Battalion prepares students for assignments as Watchstanders and Detachment Commanders at over 140 embassies, consulates and legations throughout the world. Students with widely varying probabilities of passing are admitted into the MSG school. Approximately 30% of the entering students do not graduate from the school. In addition, each year 5-10% of those serving as MSGs are relieved from duty. PERSEREC has been supporting the MSG Battalion in the development and evaluation of screening, psychological assessment, and continuing evaluation procedures since June 1987. One of the earliest tasks was to review and improve measures that were currently in use at the MSG school for assessing and selecting marines for MSG duty.

This review disclosed that considerable weight in the selection process was given to background data as recorded on a student questionnaire. This questionnaire contained open-ended responses to questions concerning such issues as prior alcohol use, arrests, hobbies, high school activities, etc. While useful for clinical insight, responses in an open-ended format are difficult to use in a systematic way to predict future behavior. Accordingly, the decision was reached by the MSG Battalion that a biodata questionnaire in multiple-choice format should be developed and validated for use in screening Marines at the MSG school.

Design and Construction of the Life Experiences Questionnaire

The first step in developing a new questionnaire was to conduct analyses on the open-ended student questionnaire data for two classes (4-87 and 5-87). The purpose of these analyses was to determine what types of responses were related to success in the MSG school. Success was defined in two ways: the pass/fail decision of the MSG screening board panel, and peer ratings. The screening board is an interview which results in a pass/fail decision as to whether a student is eligible to serve as a Marine Security Guard. Peer ratings are evaluations completed by each student for all members of his/her detachment; students are rated on various character and ability-related criteria.

Open-ended items which showed value in predicting school success were rewritten as multiple-choice items. After examining this pool of items, it was decided that more items would be needed to cover some additional content areas believed to be important for predicting successful performance. The additional areas included delinquent behavior, interactions with family members, academic performance in high school, and social interactions in high school. New items were then written for these content areas and the completed pool of 138 items (the first version of the Life Experiences Questionnaire (LEQ)) was administered to MSG class 2-88. The second version of the LEQ included 50 new items designed to measure other content areas that were considered important, such as conscientiousness, cooperativeness, and physical fitness. This brought the total item count up to 188. This version was administered to MSG class 3-88.

This provided sufficient data for the item analyses which resulted in a major revision of the instrument for MSG class 4-88. Specifically, a factor analysis was performed to provide empirically-derived scales. Alpha reliabilities were then calculated for these scales and scale scores were correlated with the pass/fail decisions of the screening board. Scales which showed a low correlation ($r < .10$) to the pass/fail criterion were deleted. For the scales which demonstrated a low degree of internal consistency (alpha less than .50), items were deleted or added, as necessary. That is, if a particular item was the cause of low internal consistency (i.e., the item did not have a high enough correlation to the total scale score), then it was dropped. However, if the lack of internal consistency was attributed to the fact that not enough items were included in the scale, then additional items were written. Twenty-eight items were dropped from the LEQ and 40 new items were added. The net result of these changes was that the item pool was increased by 12 items for a final LEQ of 200 items.

The revised LEQ was administered to MSG classes 4-88 and 5-88 and the same analyses were performed. No revisions resulted from these analyses, in terms of changes in the item pool. However, somewhat different factor structures were observed

in the data from each of these classes. Thus, the final set of LEQ scales, as derived from the analyses for class 5-88, is not entirely consistent with that derived from the analyses for previous classes.

A total of 694 males and 8 females completed various versions of the inventory. Female applicants were allowed into the MSG program only after class 3-88. The median age for the group was 21, the eldest student was 43 and the youngest were 19. The majority of those taking the inventory were lower-ranking Watchstander candidates ($n=662$) and the rest were Detachment Commander candidates ($n=40$).

The final version of the LEQ is a 200-item, multiple choice, self-report inventory that assesses several background and temperament domains. It is divided into a number of scales, each of which has demonstrated ability to identify successful performance in the MSG school. Generally, each scale is composed of items that measure one homogeneous content area (e.g., high school adjustment). Each of the items has between three and five response alternatives, and most of the item responses are ordinal.

Description of the LEQ Scales

The LEQ instrument is a collection of 200 items that are grouped into scoreable scales. Not all of the items are used in the scales. Table 1 lists each of the scales of the LEQ instrument, shows the number of items in the scale, the scale alpha reliabilities, and provides a brief description of the scale content. Eleven of the scales are content-homogeneous in nature. Some of these scales were developed by constructing a set of items that appeared on a rational basis to be measuring a homogeneous construct, with the intention of using them as a complete scale. The performance of these scales, based on reliability and validity measures, was then gauged and the scales were either retained unchanged, altered, or dropped. Other homogeneous scales were identified after the fact, emerging as products of a factor analytic solution of a large set of heterogeneous items. The internal consistency reliability of each scale was strengthened by omitting items that were weakly correlated with others in the scale. Most of the scales underwent several revisions and only a few of the early scales have been retained. Whatever the scales' genesis, each of the content-homogeneous scales is the product of the most recent factor analyses, which represent the largest sample size and consequently the most stable solution for the data. The content-homogeneous scales share no common items.

Content-Homogeneous Scales

Traditional Values. This scale is designed to measure the degree of the respondents' adherence to beliefs about values thought to be traditional in nature. It contains 10 items and has an alpha reliability of .64. Included are items about attitudes toward traditions, institutions and authority, personal sense of right and wrong, and attitudes concerning parents' values and related concepts.

High School Academics. Questions concerning academic performance in high school and attitudes towards school work comprise this scale. It contains 7 items and has an alpha reliability of .79. It includes items about the respondents' class standing, how hard they worked for good grades, and their parents' attitudes towards academic performance.

High School Adjustment. This scale is intended to measure overall adjustment to the high school environment. It is made up of 5 items whose alpha reliability is .68. The scale contains items about the respondents' attendance record, disciplinary problems, and general attitudes towards school.

Table 1

Life Experiences Questionnaire (LEQ) Scales

| TYPE OF SCALE | | <i>n</i> ITEMS | ALPHA RELIABILITY | SCALE CONTENT |
|-------------------------------|--|-------------------|----------------------|---|
| I. CONTENT HOMOGENEOUS | | | | |
| TRADITIONAL VALUES | | 10 | .64 | Traditions, authority, parents' values, personal sense of right and wrong |
| HIGH SCHOOL ACADEMICS | | 7 | .79 | Academic performance and attitudes towards school, work and grades |
| HIGH SCHOOL ADJUSTMENT | | 5 | .68 | High school attendance and disciplinary record, attitudes towards school |
| HIGH SCHOOL SOCIABILITY | | 7 | .64 | Participation in sports and social activities, and dating behavior |
| HOME/FAMILY LIFE | | 16 | .79 | Childhood experiences and attitudes about home life and family relationships |
| LEGAL/ALCOHOL TROUBLE | | 4 | .51 | Arrest record for alcohol-related and other UCMJ and civil offenses |
| CONSCIENTIOUSNESS | | 11 | .76 | How dependable/hard working do they perceive themselves and how do others perceive them |
| COOPERATIVENESS | | 8 | .76 | How cooperative do they perceive themselves and how do others perceive them |
| PHYSICAL FITNESS/SMOKING | | 5 | .57 | Smoking habits, and time devoted to physical fitness |
| ETHICAL CONSERVATISM | | 6 | .71 | Attitudes towards discipline, criminality, and imparting ethical values |
| SOCIAL DESIRABILITY | | 11 | .67 | Social desirability items |
| II. NONHOMOGENEOUS | | | | |
| PARKER-FITZ | | 35 | .58 ^a | Multiple item domains |
| S-SCALE | | 15 | NA | Multiple item domains |
| SHERMAN CRITICAL | | 50 | .65 ^a | Multiple item domains |
| RANDOM RESPONSE | | 10 | NA | Random response items |
| TOTAL ADJUSTMENT | | NA | NA | Composite of Conscientiousness, Cooperativeness, High School Adjustment, High School Academic, High School Sociability, and Legal/Alcohol Offenses scales |

^aAlpha reliabilities are not the optimal estimates of the reliabilities of these scales.

High School Sociability. Items concerning involvement in school social and sports activities are contained within this scale. It consists of 7 items whose alpha reliability is .64. Items of the scale ask questions about the Marines' social life in high school, such as how popular they felt they were and whether they were involved in sports or clubs. Two questions not specifically related to secondary school ask the age at which the respondents began dating and how often they go to parties.

Home/Family Life. This scale is made up of 16 items that measure the respondents' feelings about their general upbringing and their attitudes concerning home life and family relationships. The alpha reliability of the scale is .79. Items deal with the degree of love and support experienced in the home, the fairness of disciplinary measures, and the amount of interest parents demonstrated in the individuals' life and pursuits.

Legal/Alcohol Trouble. This scale has 4 items and a reliability of .51. The scale is comprised of items that refer to the respondents' encounters with civilian and military law, such as arrests for driving under the influence and other alcohol-related offenses, serious crimes and Uniform Code of Military Justice punishment. All of the questions are biographical in nature, as opposed to attitudinal.

Conscientiousness. This scale was designed to measure the degree to which respondents are responsible and dependable individuals. The scale consists of 11 items that have an alpha reliability of .76. Questions deal with the respondents' perseverance in completing tasks, their ability to keep promises, and how hard-working and dependable others perceive them to be.

Cooperativeness. The ability to get along with and be appreciated or well-liked by others is the essential construct measured by the cooperativeness scale. It contains 8 items and has an alpha reliability of .77. Items include questions about the impression the respondents generally make on people, how often the respondents find themselves in arguments, and whether they view themselves as cooperative individuals.

Physical Fitness/Smoking. This scale is comprised of 4 items that ask respondents about their smoking habits, how much time they devote to physical fitness training, and how they compare to other Marines in their age group in physical fitness. The scale has a reliability of .59. Respondents with low scores on this scale have a history of cigarette smoking and tend to devote less time and attention to physical training and exercise.

Ethical Conservatism. This scale is a traditional values scale that focuses on attitudes towards discipline, causes of criminality, and the imparting of ethical values. It contains 5 items and has a reliability of .71. Representative items are statements such as "Most career criminals probably have few religious or moral principles" and

"A child raised with no discipline will probably become an unruly adult." Respondents with low scores are less likely to believe that the instilling of discipline and ethical values is socially beneficial.

Social Desirability. This scale measures the degree to which respondents are responding in a socially desirable manner. The scale consists of 11 items and has a reliability of .67. Although this scale may be interpreted as a measure of the tendency to present oneself favorably, it may also be viewed as a validity scale intended to identify those who are responding falsely to the items in order to look good.

Nonhomogeneous Scales

Parker-Fitz. In contrast to the content-homogeneous scales discussed above, the Parker-Fitz scale was not designed to measure a single content area. The goal for this scale was to develop a set of keyed items that mirrored the content areas in the open-ended student questionnaire items which had proved predictive of school success. This scale shares items with some of the content-homogeneous scales. Table 1 reports an internal consistency reliability estimate. However, since the scale was not intended to be homogeneous, a more appropriate estimate would be a test-retest reliability. Such an estimate is not yet available for this scale.

S-Scale. This scale is composed of 15 items that showed both a high correlation with success at the MSG school and a low correlation with the Social Desirability scale. It was created by correlating all ordinal items on the LEQ with both the pass/fail criterion and the Social Desirability scale. Since the Social Desirability scale shows positive correlations with the pass/fail criterion and all other LEQ scales, a high Social Desirability score may indicate inflated scores on all LEQ scales. The purpose of this scale is to provide a supplemental measurement for those individuals who attempt to "fake good," i.e., score high on Social Desirability.

Sherman Critical. This scale is composed of 50 items selected by the Marine Security Guard Battalion psychologist, LCDR Forrest Sherman, on the basis of their perceived clinical diagnostic value. After reviewing the response categories for all items of the instrument, he selected specific item responses which, based on his clinical experiences, indicated that the student was a poor MSG school candidate. Table 1 reports an internal consistency reliability of .65. This measure was not intended to be homogeneous in content and thus this estimate is not optimal. A more appropriate test-retest reliability estimate is not yet available. The scale shares items with all scales excepting the social desirability and random response scales.

Random Response. This scale is composed of 10 random response items and is designed to detect careless responding. The items are written such that only one of

the response choices is reasonable. A high random response score signals that the validity of a student's responses should be questioned. While a strict cut-off point for random responding has not been established, it should be noted that, for the norm group (combined classes 2-88 through 5-88), the mean response score was 0.14, indicating that most of the sample responded with care.

Total Adjustment

This scale is the sum of raw scores on six content-homogeneous scales (High School Academics, High School Adjustment, High School Sociability, Legal/Alcohol Offenses, Conscientiousness, and Cooperativeness). This scale is offered as the single best predictor of success in the MSG school.

Intercorrelations among the LEQ Scales

Table 2 presents the correlation matrix for the LEQ scales. A review of the intercorrelations among the content-homogeneous scales aids in understanding the scope of the scales. All homogeneous scales tend to show moderate relationships with the nonhomogeneous scales primarily because they share the same items.

Both the Ethical Conservatism scale and the Traditional Values scale measure content typically identified as traditional values. However, the correlation between the two scales is not high (.21). The Traditional Values scale shows moderate correlations with the Cooperativeness scale (.31) and the Home/Family Life scale (.32). The High School Academics scale is most related to the High School Adjustment scale (.46). The High School Sociability scale is largely unrelated to most other scales and shows its largest correlations with the Cooperativeness scale (.26). The Home/Family Life scale shows moderate correlations with Traditional Values, High School Academics, Cooperativeness, and Ethical Conservatism. The Conscientiousness scale is moderately related to several scales and shows its highest correlation (.41) with Cooperativeness. The Physical Fitness/Smoking scale is largely unrelated to other scales. The Ethical Conservatism scale shows its largest correlation (.31) with the Home/Family scale. The Legal/Alcohol Offenses scale has no strong correlates with other scales.

Table 2

LEQ Scale Intercorrelations^a

| | TRAD VALUES | HS ACADEMIC | HS ADJUST | HS SOCIAL | HOME FAMILY | LEGAL ALCOHOL | CONSCI- ENTIOUS | COOP- ERATIVE | PHYSICAL SMOKING | ETHICAL CONSERV | SOCIAL DESIRABLE | PARKER FITZ | S- SCALE | SHERMAN CRITICAL | TOTAL ADJUST |
|------------------------|----------------|----------------|---------------|--------------|----------------|------------------|--------------------|------------------|---------------------|--------------------|---------------------|----------------|--------------|---------------------|-----------------|
| I. Content Homogeneous | | | | | | | | | | | | | | | |
| TRADITIONAL VALUES | 1.0 (282) | | | | | | | | | | | | | | |
| H.S. ACADEMICS | .09 (282) | 1.0 (658) | | | | | | | | | | | | | |
| H.S. ADJUSTMENT | .18 (282) | .46 (654) | 1.0 (660) | | | | | | | | | | | | |
| H.S. SOCIABILITY | .16 (280) | .12 (462) | -.07 (462) | 1.0 (462) | | | | | | | | | | | |
| HOME/FAMILY LIFE | .32 (281) | .28 (284) | .08 (284) | .18 (282) | 1.0 (284) | | | | | | | | | | |
| LEGAL/ALCOHOL | -.01 (282) | .08 (655) | .14 (657) | .02 (459) | -.03 (284) | 1.0 (661) | | | | | | | | | |
| CONSCIENTIOUSNESS | .25 (279) | .31 (455) | .17 (456) | .11 (453) | .12 (280) | -.05 (453) | 1.0 (456) | | | | | | | | |
| COOPERATIVENESS | .31 (281) | .26 (461) | .17 (462) | .26 (459) | .25 (281) | .02 (459) | .41 (454) | 1.0 (462) | | | | | | | |
| PHYS. FIT/SMOKE | .00 (280) | .11 (282) | .20 (282) | .12 (280) | .00 (281) | .11 (282) | .23 (279) | .22 (280) | 1.0 (282) | | | | | | |
| ETHICAL CONSERVATISM | .21 (282) | .06 (285) | .03 (285) | .14 (283) | .31 (284) | .09 (285) | .11 (281) | .22 (282) | .08 (282) | 1.0 (285) | | | | | |
| SOCIAL DESIRABILITY | .23 (282) | .33 (285) | .33 (285) | .05 (283) | .21 (284) | .08 (285) | .33 (281) | .38 (282) | .11 (282) | .26 (285) | 1.0 (285) | | | | |
| II. Nonhomogeneous | | | | | | | | | | | | | | | |
| PARKER-FITZ | .34 (277) | .29 (454) | .33 (455) | .47 (452) | .54 (279) | .29 (455) | .22 (446) | .42 (452) | .22 (277) | .44 (280) | .37 (280) | 1.0 (456) | | | |
| S-SCALE | .47 (281) | .31 (282) | .13 (282) | .44 (280) | .50 (281) | -.04 (282) | .23 (279) | .37 (281) | .10 (280) | .26 (282) | .09 (282) | .46 (277) | 1.0 (282) | | |
| SHERMAN CRITICAL | .41 (277) | .40 (462) | .59 (463) | .08 (457) | .50 (279) | .19 (460) | .25 (451) | .31 (457) | .14 (277) | .24 (280) | .37 (280) | .56 (456) | .38 (277) | 1.0 (464) | |
| TOTAL ADJUSTMENT | .33 (276) | .68 (448) | .53 (448) | .45 (448) | .30 (276) | .17 (448) | .69 (448) | .68 (448) | .29 (275) | .20 (277) | .46 (277) | .57 (441) | .46 (276) | .53 (443) | 1.0 (448) |

^aSample size in parentheses. Sample sizes vary because scales were periodically revised such that not all scales were included in each administration of the instrument.

Relationship between LEQ Scales and Other Measures

During the period of LEQ development and evaluation, the MSG school was administering other psychological tests to entering students to (a) assist in the screening board decision, and (b) develop a system to predict school and on-job performance. This section will describe the relationships between the LEQ scales and those of three measures.

U.S. Army Assessment of Background and Life Experiences (ABLE)

The ABLE is a personnel screening instrument designed by the Army for use in screening and classifying enlisted personnel (Hough, McGue, Kamp, Houston, & Barge, 1985). The ABLE has 11 substantive scales: Emotional Stability, Self-Esteem, Cooperativeness, Conscientiousness, Nondelinquency, Traditional Values, Work Orientation, Internal Control, Energy Level, Dominance, and Physical Condition. It also has four validity scales: Social Desirability, Self-Knowledge, Random Response, and Poor Impression. Table 3 shows the correlations between the LEQ and ABLE scales.

Many large correlations are evident. The LEQ Traditional Values scale shows its largest correlations with the ABLE Traditional Values (.43) and Conscientiousness (.41) scale. The High School Academics scale shows its largest correlation with the ABLE Work Orientation (.41) and Nondelinquency (.40) scales. By far the largest correlation of the High School Adjustment scale (.56) is with the ABLE Nondelinquency scale. High School Sociability has its strongest correlation (.43) with the ABLE Physical Condition scale. The Home/Family Life scale also shows its highest correlation (.34) with the ABLE Nondelinquency scale. The LEQ Conscientiousness scale has its highest correlation (.71) with the ABLE Work Orientation scale and also correlates .46 with the ABLE Conscientiousness scale. The LEQ Cooperativeness scale is correlated .70 with the ABLE Cooperativeness scale. The Physical Fitness/Smoking scale is most highly correlated (.38) with the ABLE Energy Level scale. The Ethical Conservatism scale is not highly correlated with any ABLE scale, but has a correlation of .20 with the ABLE Traditional Values scale. The Legal/Alcohol Trouble scale shows its largest correlation (.21) with the ABLE Nondelinquency scale.

The Total Adjustment scale of the LEQ has moderate to strong correlations with all of the ABLE substantive scales. The Parker-Fitz and Sherman Critical scales also show substantial correlations with most of the ABLE substantive scales and both have their highest correlations with Nondelinquency (.43 and .61 respectively). The S-Scale is moderately correlated with all the ABLE substantive scales. None of the LEQ scales show strong relationships with the two ABLE validity scales Self-Knowledge and Random Response. All the LEQ scales are inversely correlated with the ABLE validity scale Poor

Table 3

Correlation Matrix of ABLE Scales with LEQ Scales^a

| LEQ SCALES | ABLE Substantive Scales | | | | | | | | | | ABLE Validity Scales | | | | | |
|------------------------|-------------------------|-------------|-----------------|-------------------|----------------|--------------------|------------------|------------------|--------------|-----------|----------------------|----------------|----------------|-----------------|--------------|--------------------------|
| | EMOTIONAL STABILITY | SELF-ESTEEM | COOPERATIVENESS | CONSCIENTIOUSNESS | NONDELINQUENCY | TRADITIONAL VALUES | WORK ORIENTATION | INTERNAL CONTROL | ENERGY LEVEL | DOMINANCE | PHYS. COND. | SOCIAL DESIRAB | SELF KNOWLEDGE | RANDOM RESPONSE | POOR IMPRESS | Sample Size ^b |
| I. Content Homogeneous | | | | | | | | | | | | | | | | |
| TRADITIONAL VALUES | .30 | .29 | .37 | .41 | .37 | .43 | .23 | .36 | .32 | .31 | .10 | .20 | .00 | .11 | -.36 | 270-273 |
| H. S. ACADEMICS | .18 | .28 | .25 | .36 | .40 | .22 | .41 | .12 | .28 | .25 | .19 | .27 | .01 | .05 | -.11 | 616-623 |
| H. S. ADJUSTMENT | .17 | .16 | .24 | .37 | .56 | .27 | .21 | .11 | .20 | .07 | .06 | .27 | -.02 | .01 | -.18 | 618-625 |
| H. S. SOCIABILITY | .27 | .33 | .11 | .09 | -.05 | .04 | .15 | .11 | .20 | .32 | .43 | .03 | .05 | .04 | -.08 | 443-447 |
| HOME/FAMILY LIFE | .10 | .15 | .27 | .17 | .34 | .26 | .10 | .17 | .13 | .17 | .09 | .09 | .00 | .12 | -.19 | 272-274 |
| LEGAL/ALCOHOL | .05 | .01 | .05 | .04 | .21 | .07 | .00 | .03 | .03 | -.01 | .03 | .07 | -.05 | -.05 | -.06 | 619-626 |
| CONSCIENTIOUSNESS | .36 | .47 | .41 | .46 | .35 | .28 | .71 | .26 | .56 | .43 | .20 | .34 | .13 | .09 | -.13 | 437-441 |
| COOPERATIVENESS | .51 | .48 | .70 | .42 | .36 | .28 | .44 | .29 | .50 | .42 | .23 | .17 | -.03 | .06 | -.27 | 443-447 |
| PHYS. FIT./SMOKE | .28 | .30 | .16 | .25 | .26 | .13 | .24 | .13 | .38 | .32 | .27 | .16 | .02 | .00 | -.19 | 270 |
| ETHICAL CONSERVATISM | .14 | .19 | .23 | .17 | .17 | .20 | .08 | .14 | .12 | .18 | .08 | .11 | -.08 | .00 | -.09 | 273-275 |
| SOCIAL DESIRABILITY | .34 | .28 | .46 | .40 | .50 | .24 | .31 | .20 | .35 | .18 | .07 | .61 | -.12 | .09 | -.17 | 273-275 |
| II. Nonhomogeneous | | | | | | | | | | | | | | | | |
| PARKER-FITZ | .33 | .33 | .38 | .37 | .43 | .33 | .28 | .26 | .38 | .25 | .36 | .28 | -.07 | .01 | -.23 | 441-444 |
| S-SCALE | .27 | .24 | .29 | .32 | .21 | .27 | .26 | .23 | .27 | .32 | .23 | .08 | -.07 | .18 | -.24 | 270-272 |
| SHERMAN CRITICAL | .24 | .25 | .36 | .40 | .61 | .38 | .28 | .26 | .32 | .18 | .14 | .26 | -.05 | .08 | -.35 | 448-452 |
| TOTAL ADJUSTMENT | .50 | .59 | .59 | .58 | .54 | .39 | .66 | .30 | .60 | .51 | .37 | .37 | .05 | .07 | -.25 | 429-431 |

^aThe ABLE was administered to classes 2-88 through 5-88.^bSample sizes vary because not all scales of the LEQ were administered to each class.

Impression; highest inverse correlations are with the LEQ Traditional Values (-.36) and Sherman Critical scales (-.35). The LEQ Social Desirability scale is correlated .61 with the ABLE Social Desirability scale.

16 Personality Factor Questionnaire (16PF)

The 16PF is a well-known instrument in the field of personality measurement (Cattell, Eber, & Tatsuoka, 1970). Correlations between the 16PF and the LEQ scales tend to be low (see Table 4). Those Marines who score high in Traditional Values have a tendency to be Conscientious (.21, Scale G) and Controlled (.29, Scale Q3). They are not very Experimenting (-.24, Scale Q14) or Tense (-.22, Scale Q4). Neither the LEQ High School Academics nor the High School Adjustment scale shows strong correlations with the 16PF scales. High School Sociability is most highly correlated with the measures Enthusiastic (.30, Scale F), Warm (.21, Scale A), and Bold (.33, Scale H). Its highest negative correlation (-.30) is with Scale Q2, Self-Sufficient. The Home/Family Life scale has a correlation of -.25 with the Experimenting scale. Marines who score high in Conscientiousness on the LEQ appear to be Conscientious (.32, Scale G) and Controlled (.31, Scale Q3). They do not appear Tense (-.20). Individuals scoring high in Cooperativeness are Enthusiastic (.22), Emotionally Stable (.21, Scale C), Conscientious (.30), Bold (.30), and Controlled (.28). They do not appear Apprehensive (-.28) or Tense (-.28). Marines scoring high on Physical Fitness/Smoking are Conscientious (.20), Bold (.22), Controlled (.20) and not Tense (-.19). Those who score high on Ethical Conservatism appear to be Conscientious (.24), Shrewd (.21, Scale N) and not Imaginative (-.19, Scale M). The Legal/Alcohol Trouble scales shows no meaningful correlations with the 16PF. Both the Total Adjustment and Parker-Fitz scales have their highest correlations with the Conscientious (.35 and .26, respectively) and Controlled measures (.34 and .26, respectively). The S-Scale shows correlations of .29 with Enthusiastic, .26 with Bold, .25 with Controlled, and -.22 with Experimenting. The Sherman Critical scale is positively correlated with the scales Emotionally Stable (.20), Conscientiousness (.25) and Controlled (.30). Its highest inverse correlations are with Experimenting (-.24) and Self-Sufficient (-.21). Those Marines who want to appear socially desirable tend to be Shrewd (.26), Controlled (.24), Conscientious (.21) and not Tense (-.34).

Clinical Analysis Questionnaire (CAQ)

The CAQ was designed to complement the 16PF by providing better coverage of psychological pathology (Krug & Cattell, 1980). Correlations between the LEQ and the CAQ (see Table 5) tend to be slightly higher than those between the LEQ and the 16PF. The LEQ traditional values scale shows moderate inverse correlations with several CAQ scales; Hypochondriasis (-.27), Suicidal Depression (-.25), Anxious

Table 4

Correlation Matrix of 16PF Primary Scales with LEQ Scales

| LEQ SCALES | WARM | INTEL- LIGENT | EMOTION STABLE | ASSER- TIVE | ENTHU- SIASTIC | CONSCI- ENTIOUS | BOLD | TENDER- MINDED | SUS- PICIOUS | IMAGI- NATIVE | SHREW- D | APPRE- HENSIVE | EXPERI- MENTING | SELF-SUF- FICIENT | CON- TROLLED | TENSE | Sample Size ^a |
|-------------------------------|------|------------------|-------------------|----------------|-------------------|--------------------|------|-------------------|-----------------|------------------|-------------|-------------------|--------------------|----------------------|-----------------|-------|-----------------------------|
| I. Content Homogeneous | | | | | | | | | | | | | | | | | |
| TRADITIONAL VALUES | .07 | .11 | .10 | -.13 | .19 | .21 | .19 | -.05 | -.18 | .09 | .07 | -.18 | -.24 | -.11 | .29 | -.22 | 262 |
| H.S. ACADEMICS | .08 | .04 | .14 | -.01 | .08 | .15 | .11 | .13 | -.05 | .00 | .09 | -.06 | -.13 | -.11 | .16 | -.05 | 619 |
| H.S. ADJUSTMENT | .00 | -.01 | .14 | -.07 | -.08 | .13 | .00 | .05 | -.07 | .04 | .11 | -.08 | -.14 | -.05 | .14 | -.14 | 621 |
| H.S. SOCIABILITY | .21 | .00 | .15 | .14 | .30 | .07 | .33 | .07 | .01 | -.06 | -.05 | -.08 | -.02 | -.30 | .05 | -.03 | 430 |
| HOME/FAMILY LIFE | .02 | -.07 | .03 | -.12 | .11 | .11 | .04 | -.12 | -.10 | -.09 | .13 | -.03 | -.25 | -.11 | .17 | .01 | 264 |
| LEGAL/ALCOHOL | .02 | -.05 | .05 | -.02 | -.02 | -.02 | .01 | .07 | -.01 | -.05 | .09 | -.02 | -.02 | .00 | .03 | .02 | 622 |
| CONSCIENTIOUSNESS | .01 | .14 | .09 | .07 | .06 | .32 | .16 | -.09 | -.10 | .05 | .05 | -.18 | -.15 | -.10 | .31 | -.20 | 425 |
| COOPERATIVENESS | .07 | .03 | .21 | -.05 | .22 | .30 | .30 | .03 | -.16 | .02 | .17 | -.28 | -.14 | -.19 | .28 | -.28 | 430 |
| PHYS. FIT./SMOKE | .06 | .04 | .16 | .14 | .06 | .20 | .22 | .05 | .06 | .03 | .04 | -.14 | -.06 | -.13 | .20 | -.19 | 262 |
| ETHICAL CONSERVATI | .05 | -.16 | -.02 | -.06 | .16 | .24 | .08 | -.12 | .05 | -.19 | .21 | .07 | .02 | -.15 | .15 | -.10 | 265 |
| SOCIAL DESIRABIL | .04 | -.15 | .16 | -.14 | -.03 | .21 | .06 | -.02 | -.17 | .12 | .26 | -.12 | -.16 | -.14 | .24 | -.34 | 265 |
| II. Nonhomogeneous | | | | | | | | | | | | | | | | | |
| PARKER-FITZ | .10 | -.05 | .23 | -.08 | .14 | .26 | .20 | .02 | -.09 | -.02 | .19 | -.13 | -.18 | -.24 | .26 | -.18 | 428 |
| S-SCALE | .10 | -.05 | .12 | .00 | .29 | .19 | .26 | -.04 | -.05 | -.06 | -.01 | -.07 | -.22 | -.17 | .25 | -.10 | 262 |
| SHERMAN CRITICAL | .11 | .01 | .20 | -.12 | .05 | .25 | .15 | .11 | -.19 | .03 | .16 | -.18 | -.24 | -.21 | .30 | -.18 | 436 |
| TOTAL ADJUSTMENT | .13 | .06 | .25 | .03 | .21 | .35 | .31 | .05 | -.13 | .04 | .13 | -.23 | -.20 | -.24 | .34 | -.23 | 417 |

^aSample sizes vary because not all scales of the LEQ were administered to each class. The full 16PF was administered to each class.

Table 5

Correlation Matrix of CAQ Scales with LEQ Scales

| LEQ SCALES | HYPPOCHON- DRIASIS | SUL- CIDAL | AGITATE DEPRESS | ANXIOUS DEPRESS | LOW ENERGY | GUILT RESENT | BORED DEPRESS | PARA- NOIA | PSYCHO. DEVIAE | SCHIZO- PHRENIA | PSYCHAS- THENIA | PSYCHO. INADEQUACY | FAKING GOOD | Sample Size ^a |
|-------------------------------|-----------------------|---------------|--------------------|--------------------|---------------|-----------------|------------------|---------------|-------------------|--------------------|--------------------|-----------------------|----------------|-----------------------------|
| I. Content Homogeneous | | | | | | | | | | | | | | |
| TRADITIONAL VALUES | -.27 | -.25 | -.17 | -.29 | -.32 | -.18 | -.39 | -.31 | .00 | -.33 | -.25 | -.32 | .39 | 262 |
| H.S. ACADEMICS | -.05 | -.11 | -.11 | -.14 | -.16 | -.10 | -.15 | -.11 | -.01 | -.14 | -.02 | -.09 | .23 | 619 |
| H.S. ADJUSTMENT | -.09 | -.13 | -.15 | -.10 | -.10 | -.17 | -.07 | -.06 | -.06 | -.13 | -.11 | -.06 | .20 | 621 |
| H.S. SOCIABILITY | -.13 | -.02 | .15 | -.08 | -.14 | -.07 | -.26 | -.02 | .08 | -.12 | -.03 | -.21 | .12 | 430 |
| HOME/FAMILY LIFE | -.13 | -.13 | .00 | -.09 | -.14 | -.02 | -.26 | -.22 | -.03 | -.18 | -.09 | -.15 | .14 | 264 |
| LEGAL/ALCOHOL | -.04 | -.02 | .00 | .00 | -.03 | -.02 | .00 | .05 | .04 | -.02 | -.03 | .06 | .08 | 622 |
| CONSCIENTIOUSNESS | -.24 | -.21 | -.09 | -.28 | -.32 | -.15 | -.24 | -.10 | .12 | -.21 | -.12 | -.22 | .43 | 425 |
| COOPERATIVENESS | -.33 | -.27 | -.07 | -.29 | -.37 | -.23 | -.39 | -.18 | .05 | -.31 | -.20 | -.33 | .36 | 430 |
| PHYSICAL FIT/SMOKE | -.17 | -.17 | -.01 | -.19 | -.15 | -.15 | -.22 | .05 | .11 | -.17 | -.04 | -.15 | .19 | 262 |
| ETHICAL CONSERVATISM | -.09 | -.06 | -.08 | -.10 | -.10 | -.10 | -.28 | .01 | -.08 | -.17 | -.06 | -.06 | .22 | 265 |
| SOCIAL DESIRABILITY | -.21 | -.18 | -.25 | -.13 | -.30 | -.30 | -.24 | -.08 | -.14 | -.26 | -.30 | -.15 | .45 | 265 |
| II. Nonhomogeneous | | | | | | | | | | | | | | |
| PARKER-FITZ | -.25 | -.22 | -.08 | -.12 | -.29 | -.17 | -.32 | -.14 | .01 | -.30 | -.16 | -.21 | .32 | 427 |
| S-SCALE | -.27 | -.16 | .02 | -.22 | -.21 | -.05 | -.45 | -.24 | .12 | -.32 | -.12 | -.30 | .28 | 262 |
| SHERMAN CRITICAL | -.27 | -.28 | -.14 | -.22 | -.26 | -.15 | -.29 | -.25 | -.07 | -.27 | -.21 | -.21 | .28 | 435 |
| TOTAL ADJUSTMENT | -.29 | -.26 | -.10 | -.31 | -.37 | -.24 | -.37 | -.17 | .08 | -.29 | -.17 | -.29 | .45 | 417 |

^aSample sizes vary because not all scales of the LEQ were administered to each class. The full CAQ was administered to each class.

Depression (-.29), Low Energy (-.32), Bored Depression (-.39), Paranoia (-.31), Schizophrenia (-.33), Psychasthenia (-.25) and Psychological Inadequacy (-.32). The CAQ Faking Good scale is positively related (.39) to the Traditional Values scale. The CAQ Faking Good scale has moderate correlations with most of the LEQ scales and shows its highest correlation with Social Desirability (.45) and Conscientiousness (.43). Neither the LEQ High School Academics nor High School Adjustment scale shows strong relationships with the CAQ clinical scales. The High School Sociability scale is inversely related to the CAQ Bored Depression (-.26) and Psychological Inadequacy (-.21) scales. Both the Bored Depression and the Paranoia scale are inversely related to the LEQ Home/Family Life scale (-.26 and -.22 respectively). The Conscientiousness and Cooperativeness scales show several moderate inverse correlations with the CAQ scales. The Physical Fitness/Smoking scale is inversely correlated with the Bored Depression scale (-.22). Likewise, the Ethical Conservatism scale is inversely related to the Bored Depression scale (-.28). The Legal/Alcohol scale shows no strong correlations with the CAQ scales. The Total Adjustment scale shows moderate inverse correlations with most of the CAQ except for the Faking Good scale, with which it is correlated .45. The Parker-Fitz and S-Scale have their highest inverse correlations with the Bored Depression (-.32 and -.45, respectively) and Schizophrenia (-.30 and -.32, respectively) scales. The Sherman Critical scale follows a pattern similar to the two scales mentioned above.

LEQ Scale Interpretations

In reviewing the comparisons made between the LEQ and the other three instruments discussed above, some observations can be made about the general character of the LEQ and its scales. The LEQ scales show a consistent positive relationship with the ABLE substantive scales. High scores on the LEQ are generally associated with low suspicion, apprehension, experimenting, self-sufficiency and tension on the 16PF. Nearly all the LEQ scales are associated with low psychopathology on the CAQ and most have their strongest inverse relationship with the Bored Depression scale, which is a dimension characterized by withdrawal and a feeling that life is pointless (Krug & Cattell, 1980).

With regard to specific LEQ scales, the Traditional Values, Conscientiousness, and Cooperativeness scales seem to do a reasonably good job of measuring what their names imply when compared with ABLE and 16PF scales of the same name, though the ABLE Work Orientation scale seems to be the better LEQ Conscientiousness counterpart. The High School Academics and Adjustment scales have little in common with the 16PF and CAQ clinical scales, but they are both closely associated with Nondelinquency as measured by the ABLE. The High School Sociability scale has a number of strong relationships with 16PF measures, characterized by boldness, a warm heart and enthusiasm coupled with a lack of self-sufficiency; its only other correlation

of note is with the ABLE scale Physical Condition. The Home/Family Life, Physical Fitness/Smoking, and Ethical Conservatism scales have no strong relationships among the other instruments. The LEQ Social Desirability scale shows good construct validity through high correlations with the ABLE Social Desirability and CAQ Faking Good scales.

The nonhomogeneous LEQ scales Parker-Fitz, Total Adjustment, and Sherman Critical all have a similar pattern of relationships with the other instruments. They are most related to the 16PF Controlled and Conscientious measures, respectively, and all show a strong inverse relationship to the CAQ Bored Depression scale. The three non-homogeneous LEQ measures also show a strong relationship to the ABLE Nondelinquency measure. The S-Scale correlations follow the general pattern of the other nonhomogeneous scales.

The Criteria

MSG School Criteria

Two criterion measures were used to examine the predictive validity of the LEQ against school success. Due to sample size limitations, data for watchstanders and detachment commanders were combined for each of these measures.

Passing or failing the MSG school was used as the main criterion score in evaluating the performance of LEQ scales. Of the 1106 Watchstander students in classes 4-87 through 5-88, 291, or 26%, failed the screening board evaluation. For the Detachment Commander students, 38 of the 111, or 34%, failed the screening board. Individuals who were discharged from school because they were not physically able to meet the requirements (i.e., personal injury, dental problems, but not including substandard physical fitness scores or weight problems) and whose discharge was not associated with any derogatory information, were excluded from analyses of the pass/fail criterion. Since individual scores on some scales were reported to the MSG Battalion psychologist for classes subsequent to 2-88, and since these scores may have influenced decisions during the Screening Board process, the pass/fail criterion for some scales is contaminated for specific classes. However, for each scale there exists at least one class for which the pass/fail criterion is not contaminated. All results presented are for classes with the noncontaminated criterion. Pass/fail analyses are based on data collected for classes 2-88 through 5-88.

Three peer rating composites constitute the other school measure. After about 3 weeks of training, each Marine attending MSG school is required to evaluate his peers according to various criteria, and record his observations on a Contemporary Leadership Evaluation form. The form consists of several six-point rating scales with verbal anchors ranging from unacceptable to outstanding, and an area for comments. The form for Watchstanders and the Detachment Commanders is identical except that an additional set of scale ratings dealing with leadership traits is appended to the latter form. The comments were content analyzed and coded to supplement the peer ratings. Three composites were then selected from the peer rating data:

- 1) a total score for the peer ratings (i.e., a sum of the ratings on each of the rating scales),
- 2) the number of negative comments about the student, and
- 3) the sum of the ratings on the "drinking" and "liberty" rating scales.

The third composite was used as a measure of the off-duty behavior of MSG candidates. It includes the only two rating scales which specifically address this issue. Off-duty behavior, though not strictly a measure of performance, is important in its own

right. It is assumed that, by frequently engaging in undesirable behavior (e.g., excessive drinking) when off duty, the likelihood that the MSG could be placed in a compromising position is increased.

Data for these three composites were available for classes 2-88 through 4-88.

MSG Job Performance Criteria

In the summer and fall of 1988, job performance ratings on 903 Marine Watchstanders and 120 Detachment Commanders were collected from 140 U.S. embassies and legations around the world (Wiskoff, Parker, Zimmerman, McDaniel, & Sherman, in press). Individuals were rated on performance of job-related duties, measures of interpersonal relations, self-discipline and other individual traits (Houston, in press). Rating criteria for Watchstanders and Detachment Commanders differed somewhat, but both consisted of a core of job-related ratings and personality/character-related ratings. Watchstanders were rated by both their peers and their immediate supervisors (Detachment Commanders or Assistant Detachment Commanders) while Detachment Commanders were rated by Watchstanders, their supervising Regional Security Officer and their Company Commander. A sufficient number of the Watchstanders were recent graduates of the MSG school (Class 2-88), and had taken the LEQ upon entry into the school, to enable analyses of five scales of the LEQ against rating criteria. There were too few Detachment Commanders who had taken the LEQ and were rated to permit statistical relationships to be performed.

Separate factor analyses were performed on Watchstander ratings with peers as raters ($N=895$) and supervisors as raters ($N=628$) (Wiskoff et al., in press). A three-factor solution of the data with peers as raters emerged. The factors were labelled Core Duties, Personal Qualities, and Self-Discipline. These three factors, plus a linear sum of the factor ratings (Total Composite), were used to obtain criterion scores from peer ratings. A four-factor solution of the data with supervisors as raters proved the most interpretable. The factors identified were labelled Core Duties, Interpersonal, Overall Effort, and Self-Discipline. These four factors plus a total rating were then applied to the rating data. It should be noted that the Core Duties and Self-Discipline factors for supervisor and peer ratings are not identical, however they have very similar patterns of scale factor loadings.

Criterion-related Validities

MSG School Performance Validities

A review of Table 6 shows generally positive correlation coefficients for LEQ scales against pass/fail and peer evaluations. The best single scale predictor of most of the criteria is the Sherman Critical scale; it is the best predictor of the pass/fail (.34) and positive Peer Drinking/Liberty behavior (.19) criteria. It also performs well (.25) against the Peer Ratings Total criterion. The Parker-Fitz scale has its highest correlation (.25) with the Peer Ratings Total criterion, and also performs fairly well (.21) against the pass/fail criterion. The S-Scale also performs well across the peer criteria; it is the best predictor (.22) of the Peer Comments Total. Its correlation with pass/fail is highly contaminated since the scale incorporates items that predict pass/fail in order to maximize its prediction power. The fact that the S-scale does well in predicting the uncontaminated criteria speaks for its predictive value.

Most of the best performances against the criteria are registered by scales that are nonhomogeneous in nature. This is probably due to the breadth of personality traits measured by these constructs. This is also true for the Total Adjustment scale, which incorporates six different content scale scores. It showed a .26 correlation with the pass/fail criterion and registers useful levels of validity with other criteria.

Table 7 presents the results from stepwise regression analyses performed on the MSG school criteria with six LEQ content-homogeneous scales as predictors (High School Academics, High School Adjustment, High School Sociability, Conscientiousness, Cooperativeness, and Legal/Alcohol Trouble). Only six scales could be considered in the stepwise equation because of sample size considerations. Peer rating criteria were not recorded for class 5-88, and only three of the current scales existed in class 2-88. Therefore the sample was restricted to classes 3-88 and 4-88 ($N=282$) for which six of the present scales existed. A shrinkage formula was applied to the resulting multiple R s (Nunnally, 1978, p. 180) so that a better estimate of their predictive power with a different sample could be obtained. The resulting coefficients are listed in the table as the "Shrinkage R ".

In general, the stepwise regression equations in Table 7 do not appear to be better predictors of the MSG school criteria than the LEQ nonhomogeneous scales (Table 6). That is, for each criterion measure, with the exception of Peer Drinking-Liberty, there are one or more nonhomogeneous scales that perform at least as well as the stepwise regression equation. However, this is not surprising, since the non-homogeneous scales utilize items from several content-homogeneous scales.

Table 6

Correlations of LEQ Scales with MSG School Criteria

| LEQ SCALES | PEER EVALUATIONS | | | | | | | |
|-------------------------------|----------------------------|-----|-------------------------------|-----|--------------------------------|-----|-----------------------------------|----------------|
| | PASS- ^a FAIL | N | RATINGS ^b TOTAL | N | COMMENTS ^c TOTAL | N | DRINKING- ^d LIBERTY | N ^e |
| I. Content Homogeneous | | | | | | | | |
| TRADITIONAL VALUES | .21* | 279 | .19 | 109 | -.02 | 117 | .17 | 109 |
| H.S. ACADEMICS | .09 | 188 | .13* | 444 | .13* | 454 | .11* | 444 |
| H.S. ADJUSTMENT | .19* | 189 | .14* | 445 | .01 | 455 | .15* | 445 |
| H.S. SOCIABILITY | .18* | 179 | -.01 | 272 | .11 | 282 | -.08 | 272 |
| HOME/FAMILY LIFE | .07 | 123 | .13 | 108 | .15 | 116 | .03 | 108 |
| LEGAL/ALCOHOL | .02 | 193 | .07 | 446 | .02 | 456 | .10* | 446 |
| CONSCIENTIOUSNESS | .26* | 175 | .15* | 266 | .08 | 276 | .11 | 266 |
| COOPERATIVENESS | .11 | 180 | .14* | 274 | .11 | 284 | .04 | 274 |
| PHYSICAL FIT./SMOKE | .04 | 279 | .23* | 108 | .07 | 116 | .17 | 108 |
| ETHICAL CONSERVATISM | .20* | 282 | .11 | 109 | -.08 | 117 | .04 | 109 |
| SOCIAL DESIRABILITY | .10 | 282 | .05 | 109 | -.05 | 117 | .02 | 109 |
| II. Nonhomogeneous | | | | | | | | |
| PARKER-FITZ ^f | .21* | 191 | .25* | 268 | .09 | 278 | .15* | 268 |
| S-SCALE | NA | NA | .21* | 109 | .22* | 117 | .17 | 109 |
| SHERMAN CRITICAL ^f | .34* | 193 | .25* | 275 | .10 | 285 | .19* | 275 |
| TOTAL ADJUSTMENT | .26* | 171 | .19* | 261 | .19* | 271 | .13* | 261 |

^aThe Pass-Fail scale validities are reported only for those classes where scale results were not reported to the screening board (i.e., where no criterion contamination exists.)

^bThe Peer Ratings Total is a composite of the four rating factors identified in the peer criteria analysis: professionalism, military bearing, drinking/liberty and overall motivation. These data have no criterion contamination.

^cThe Peer Comments Total is a composite of the five comment factors identified in the peer criteria analysis: team player, physical condition, thoroughness in work, self-confidence and leadership. These data have no criterion contamination.

^dThe Drinking-Liberty habits factor was identified in the Peer Ratings factor solution (see above) and forms part of the Peer Ratings Total criterion. These data have no criterion contamination.

^eSample sizes for the Pass-Fail criterion vary for two reasons. First, for some classes, results from scales were used in the screening process while other scales were free from criterion contamination. The reported validities are for scale/class combinations where there was no criterion contamination. Second, sample sizes also vary because not all scales were included in each class administration. Sample sizes for the peer criteria vary solely for this second reason.

^fValidities shown are for the original versions of these scales (class 2-88). Scales presently in use include more items.

* $p < .05$

Table 7

Stepwise Regression of LEQ Scales with MSG School Criteria

| Dependent Variable = Pass-Fail* |
|--|
| $F = 4.3$ Probability of $F = .04$ |
| Model $R^2 = .09$ ($R = .30$) |
| Shrinkage $R^2 = .08$ ($R = .28$) |
| Pass-Fail = $-1.2 + .02$ (High School Sociability) + $.03$ (Conscientiousness) |
| Dependent Variable = Peer Ratings Total |
| $F = 3.2$ Probability of $F = .08$ |
| Model $R^2 = .05$ ($R = .22$) |
| Shrinkage $R^2 = .03$ $R = .18$ |
| Peer Total = $65 + .29$ (High School Adjustment) + $.59$ (Legal/Alcohol Trouble) + $.23$ (Conscientiousness) |
| Dependent Variable = Peer Comments Total |
| $F = 2.6$ Probability of $F = .11$ |
| Model $R^2 = .05$ ($R = .22$) |
| Shrinkage $R^2 = .03$ $R = .17$ |
| Peer Comment Total = $24 + .02$ (High School Academic) + $.01$ (High School Sociability) |
| Dependent Variable = Peer Drinking-Liberty |
| $F = 2.2$ Probability of $F = .14$ |
| Model $R^2 = .06$ ($R = .24$) |
| Shrinkage $R^2 = .04$ $R = .20$ |
| Peer Drinking = $11 + .09$ (High School Adjustment) + $.13$ (Legal/Alcohol Trouble) + $.03$ (Conscientiousness) |

Note: Due to criterion contamination for Pass-Fail, only data from class 3-88 could be used.

MSG Job Performance Validities

Table 8 shows correlations for Class 2-88 of five LEQ scales with the peer and supervisor sets of Watchstander performance criteria. Data from Class 2-88 were used because there were too few individuals from other classes who had taken the LEQ, and who had been on the job for a sufficient period of time when the field data were collected.

The Sherman Critical scale, the best predictor of the pass/fail school criterion, also exhibits significant correlations with eight of the nine peer and supervisor rating factors (.22 to .29). The other nonhomogeneous scale (Parker-Fitz) has positive correlations with the criteria, but only reaches statistical significance with the peer rating of Self-Discipline (.19). The High School Academics and High School Adjustment scales had similar patterns of significant *rs* with peer ratings but low relationships to supervisor ratings. The Legal/Alcohol scale did not display significant relationships with either set of criteria.

Table 8

Correlations of LEQ Scales with Watchstander Job Performance Criteria for Class 2-88

| | PEER RATING FACTORS | | | | SUPERVISOR RATING FACTORS | | | | |
|-------------------------------|----------------------------|--------------------|-----------------|-----------------|---------------------------|-----------------|----------------|-----------------|-----------------|
| | CORE DUTIES | PERSONAL QUALITIES | SELF-DISCIPLINE | TOTAL COMPOSITE | CORE DUTIES | INTER- PERSONAL | OVERALL EFFORT | SELF-DISCIPLINE | TOTAL COMPOSITE |
| I. CONTENT HOMOGENEOUS | | | | | | | | | |
| H.S. ACADEMICS | .19* (108) ¹ | .21* (108) | .30** (108) | .23* (108) | .00 (89) | .12 (89) | .13 (87) | .24* (88) | .12 (86) |
| H.S. ADJUSTMENT | .22* (106) | .22* (106) | .24* (106) | .24* (106) | .07 (88) | .09 (88) | .09 (87) | .11 (87) | .10 (85) |
| LEGAL/ALCOHOL | .11 (110) | .08 (110) | .11 (110) | .10 (110) | -.08 (91) | -.07 (91) | -.04 (89) | -.04 (90) | -.07 (88) |
| II. NONHOMOGENEOUS | | | | | | | | | |
| PARKER-FITZ ² | .16 (108) | .16 (108) | .19* (108) | .18 (108) | .04 (89) | .12 (89) | .12 (87) | .16 (88) | .11 (86) |
| SHERMAN CRITICAL ² | .26** (110) | .25** (110) | .28** (110) | .27** (110) | .14 (91) | .26* (91) | .22* (89) | .29** (90) | .24* (88) |

Note: 1. Data for Watchstanders only.

2. Validities shown are for the original versions of these scales (class 2-88). Scales presently in use include more items.

* $p < .05$ ** $p < .01$

Discussion and Conclusion

This report has documented the development and evaluation of the LEQ for the Marine Security Guard program. Scales for the LEQ were rationally constructed based on a combination of factor analytic results and statistical relationships with other known test instruments. The LEQ measures a broad domain of background constructs as evidenced by the magnitude of the correlations of its scales with those of a U.S. Army biodata inventory (ABLE) and two commercial clinical instruments (16PF and CAQ). The alpha reliabilities of the scales are adequate and comparable to reliabilities for other instruments with similar type items and content.

Based on this data it would appear that the LEQ measures the background and personality constructs that are required for success in the MSG program. This conclusion is substantiated by the results of the validations of the LEQ against measures of school and job performance. The zero order r 's for all the LEQ scales against MSG school pass/fail are positive with nine of the validity coefficients (six content homogeneous and three nonhomogeneous) reaching statistical significance at the .05 level. A large number of both sets of scales were significantly related to the three peer evaluation criteria. It should be noted that these relationships are conservative because they are based only on the original versions of the scales as developed for class 2-88. Scales presently in use include more items and should evidence higher correlations with pass/fail and peer evaluations.

Relationships of five of the LEQ scales to peer and supervisor ratings of Watchstander job performance while based on small ns , nevertheless display a positive pattern of significant relationships. In particular, the Sherman Critical scale, the best predictor of school performance also demonstrated the highest correlations with both peer and supervisor ratings.

The results support the operational use of the LEQ in screening personnel for MSG school. Screening could be conducted prior to school entry, i.e., as part of the application process, or immediately upon arrival at the school. Screening of personnel prior to their assignment to the MSG school has the obvious advantage of reducing costs associated with processing and assigning personnel who are unlikely to successfully complete MSG school. On the other hand, introducing the LEQ as part of the eligibility requirements for MSG duty would require certain logistical arrangements for the administration, scoring and interpretation and use of LEQ results prior to arrival at the school.

The LEQ is only one of a number of test instruments that are being evaluated for potential use in screening and selecting Marines for MSG duty. This larger study is considering the LEQ in conjunction with other tests and procedures and will recom-

mend a mix of these measures for use in assigning Marines to MSG school and MSG duty. Given that this final determination has not been made, the most appropriate immediate application of the LEQ would be in its clinical use by the MSG Battalion psychologist in assisting the selection board determine the pass/fail status of students.

In accord with this recommendation, procedures as described in the Appendix were developed to assist in the interpretation of results from LEQ administration. In fact, as indicated in the body of this report, the LEQ has been operationally employed since class 3-88 by the MSG Battalion psychologist.

In conclusion, the LEQ is a valuable overall measure of the potential for successful performance in MSG duty. Additionally, scales on the LEQ can be clinically interpreted to provide indications of potential problems for individuals assigned to MSG duty. For example, the fact that a Marine scores low on the High School Adjustment and/or Total Adjustment Scales might not in and of itself be justification for rejecting that Marine for MSG duty. The information, however, along with other relevant data, could be used in making specific duty assignments and in careful monitoring of performance and behavior of Marine Security Guards while on Embassy duty.

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Appendix

Description of the LEQ Scoring Report for MSGs

Description of the LEQ Scoring Report For MSGs

The LEQ Scoring Report consists of a two-page scoring summary for each respondent. The first page (Figure 1) contains identifying student information, sten scores for each scale, and a profile graph of the sten scores (the random response scale is presented in raw score format). With the exception of the random response scale, all scales are scored such that a large sten score corresponds to favorable adjustment. A probability of passing the Screening Board is also printed for each student. This percentage rank (Low - about 46%, Medium - about 72%, and High - about 85%) is calculated from the Total Adjustment scale and is based on previous performance of the scale against the uncontaminated pass/fail criterion. In addition, warning messages are printed if the Random Response or Social Desirability scale scores are abnormally high; this alerts the examiner to the possibility of non-valid responses.

On the second page (Figure 2), each response which is keyed to the Sherman Critical scale is printed out. These "unfavorable" responses are grouped under general categories (e.g., military and legal troubles, alcohol problems, etc.). Since the Sherman Critical scale is composed of specific responses to 50 items, most examinees will have a few derogatory responses listed. Additional information about these responses can be obtained by a personal interview with the respondent.

For Sole Use of MSG BATTALION PSYCHOLOGIST

SSN: 9999999999

| SCALE NAME | STEN SCORE | HIGH STEN SCORES REFLECT FAVORABLE | | | | | | | | | | | |
|--------------------------------|------------|------------------------------------|---|---|---|---|---|---|---|---|---|----|--------------------------|
| ADJUSTMENT | ** | | | | | | | | | | | | |
| Traditional Values | 5 | Low Traditional Values | 1 | 2 | 3 | 4 | X | 6 | 7 | 8 | 9 | 10 | High Traditional Values |
| HS Academics | 5 | Low HS Academics | 1 | 2 | 3 | 4 | X | 6 | 7 | 8 | 9 | 10 | High HS Academics |
| HS Adjustment | 4 | Low HS Adjustment | 1 | 2 | 3 | X | 5 | 6 | 7 | 8 | 9 | 10 | High HS Adjustment |
| HS Sociability | 5 | Low HS Sociability | 1 | 2 | 3 | 4 | X | 6 | 7 | 8 | 9 | 10 | High HS Sociability |
| Legal/Alcohol Trouble | 4 | Trouble | 1 | 2 | 3 | X | 5 | 6 | 7 | 8 | 9 | 10 | No Trouble |
| Home/Family Life | 3 | Low Home Adjustment | 1 | 2 | X | 4 | 5 | 6 | 7 | 8 | 9 | 10 | High Home Adjustment |
| Cooperativeness | 3 | Uncooperative | 1 | 2 | X | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Cooperative |
| Conscientiousness | 4 | Not Conscientious | 1 | 2 | 3 | X | 5 | 6 | 7 | 8 | 9 | 10 | Very Conscientious |
| Physical Fitness/Smoking | 3 | Low Fitness/Smoking | 1 | 2 | X | 4 | 5 | 6 | 7 | 8 | 9 | 10 | High Fitness/Smoking |
| Ethical Conservatism | 4 | Not Conservative | 1 | 2 | 3 | X | 5 | 6 | 7 | 8 | 9 | 10 | Very Conservative |
| Parker-Fitz Scale | 3 | Low Adjustment | 1 | 2 | X | 4 | 5 | 6 | 7 | 8 | 9 | 10 | High Adjustment |
| Sherman Critical Scale | 6 | Low Adjustment | 1 | 2 | 3 | 4 | 5 | X | 7 | 8 | 9 | 10 | High Adjustment |
| S-Scale Composite | 4 | Low Adjustment | 1 | 2 | 3 | X | 5 | 6 | 7 | 8 | 9 | 10 | High Adjustment |
| TOTAL ADJUSTMENT SCALE | 3 | LOW ADJUSTMENT | 1 | 2 | X | 4 | 5 | 6 | 7 | 8 | 9 | 10 | HIGH ADJUSTMENT |
| ***** | | | | | | | | | | | | | |
| ** Response Validity Scales ** | | | | | | | | | | | | | |
| ***** | | | | | | | | | | | | | |
| Social Desirability | 4 | Low Social Desirability | 1 | 2 | 3 | X | 5 | 6 | 7 | 8 | 9 | 10 | High Social Desirability |

Figure 1. First page of the scoring summary

*** PRIVACY DATA ***

MSG BATTALION Student Questionnaire

For Sole Use of MSG BATTALION PSYCHOLOGIST

Marine Last Name: DOE JOHN

SSN: 999999999

SNM Received a sten score of 6 on the Sherman CRITICAL ITEM Scale. A summary report follows:

Problems in High School Adjustment

(Q2-C): Sent to principal's office 3 or 4 times.

No critical alcohol abuse items endorsed.

No derogatory automobile items endorsed.

No critical military or legal problems reported.

No 'other trouble' items endorsed.

Childhood Home Problems

(Q51-D): In high school, went out 4 or more evenings a week.

No derogatory current parental relations items endorsed.

Conscientiousness, Alienation and Psychic Angst

(Q53-A): Would ignore minor rules if others did.

Figure 2. Second page of the scoring summary